NATIONAL OPEN UNIVERSITY OF NIGERIA,
PLOT 91, CADASTRAL ZONE, UNIVERSITY VILLAGE, JABI – ABUJA
FACULTY OF SCIENCES
2020_2 EXAMINATIONS 1234

COURSE CODE: CIT851
COURSE CREDIT: 3
COURSE TITLE: ADVANCED SYSTEMS ANALYSIS AND DESIGN
 TIME ALLOWED: $2^1/_2$ HOURS
INSTRUCTION: ANSWER QUESTION ONE (1) AND ANY OTHER FOUR (4)

1a) Based on what you've learnt from this course, outline any 4 problems of systems development that necessitated the use of Software Development Life Cycle (SDLC). *(4 marks)*
1b) Expound on the term "Modularity" from the perspective of systems analysis and design.
    (3 marks)
1c) Write briefly on the implications of re-engineering. *(3 marks)*
1d) Give a short description of the following types of systems.
i. Open system *(1 mark)*
ii. Formal system *(1 mark)*
1e) State two examples each of the following types of systems

    i. Open system *(2 marks)*
    ii.Abstract system *(2 marks)*

1f) In a bid to improve their mobile banking service, Bank *ABC* has decided to develop a new mobile banking application using Joint Application Development. Using the bank as a case study, give one possible example each of the following type of participants in this exercise. *(3 marks)*

    i. Users
    ii. Sponsors
    iii. System Analysts.

1g) Elucidate on the Information system audit in systems analysis and design. *(3 marks)*

2a) Briefly list and describe the 3 main classes of information in systems analysis and design.
    (6 marks)
2b) As an expert in Systems Analysis and Design, classify the following forms of information;

    i. Customers' accounts information *(1 mark)*
    ii. Organization's supply record book for *ABC* company *(1 mark)*
    iii. January sales report *(1 mark)*
    iv. Customer warranty card *(1 mark)*
    v. Financial audit report prepared for the tax authority *(1 mark)*
    vi. Documentation for a new product from the company *(1 mark)*

3a) What is the essence fact finding in system analysis? *(3 marks)*

3b) As a System Analyst carrying out a fact finding task for a new software project to be developed for *ABC* Company, you are required to collect the following information as depicted in i, ii, iii and iv.
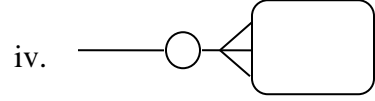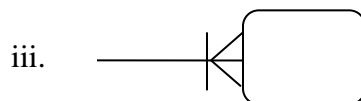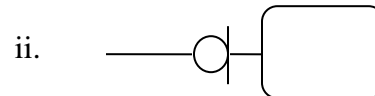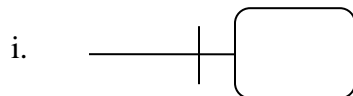Which fact finding technique will be most suitable for each of these tasks?

i. Very important information from the Chief Executive Officer of the company who happens to be a very busy fellow. *(1½ mark)*

ii. information from knowledgeable staff in the various departments of the organization in such a way that the problem will be discussed, where they are also expected to provide answers to your questions. *(1½ mark)*

iii. To verify and confirm by observation, the validity of information collected from other sources. *(1½ mark)*

iv. To collect information from One Thousand staff members of *ABC* Company. *(1½ mark)*

3c) What is Joint Application Development? *(3 marks)*

4a) State the key function of an entity relationship diagram? *(2 marks)*

4b) Write briefly on the term "Cardinality". *(2 marks)*

4c) Identify the type of cardinality given in the graphic notations provided;

i.

ii.

iii.

iv.

(4 marks)
4d) Describe the following terms

i. One-to-one relationship *(2 marks)*
ii. One-to-many relationship *(2 marks)*

5a) What are CASE tools? *(3 marks)*
5b) List any four features of CASE-based system development. *(4 marks)*
5c) Briefly describe the following tools and give one example of each;
    i. Front-End Tools *(2½ marks)*
    ii. Back-End Tools *(2½ marks)*
6a) Describe the following types of feasibilities.

        i. Technical feasibility *(2 marks)*
        ii. Economic feasibility *(2 marks)*
        iii. Operational feasibility *(2 marks)*

6b) Briefly explain the essence of document maintenance in systems. *(3 marks)*

6c) What is a System Requirements Specification? *(3 marks)*